

Appl. Ser. No. 09/650,323
Att. Docket No. 10746/20
Reply to Office Action of March 8, 2004

Amendments to the CLAIMS:

Without prejudice, this listing of the claims replaces all prior versions and listings of the claims in the present application:

LISTING OF CLAIMS:

1-44. (Canceled).

45. (New) A data storing system comprising:

a user apparatus which stores data;

an issuing apparatus which is held by an issuer and that provides the user apparatus;

a data providing apparatus which is held by a data provider that provides data;

an issuer registration apparatus which is held by an issuer registrar and that registers and manages the issuer; and

a data registration apparatus which is held by a data registrar that registers and manages the data provider;

wherein:

the issuer registration apparatus issues, to the issuing apparatus, an issuing apparatus registration certificate for certifying validity of the issuing apparatus,

the data registration apparatus issues, to the data providing apparatus, a data providing apparatus registration certificate for certifying validity of the data providing apparatus,

the issuing apparatus issues, to the user apparatus, a user apparatus registration certificate for certifying validity of the user apparatus,

the user apparatus sends a data download request with the user apparatus registration certificate and storing data information to the issuing apparatus,

the issuing apparatus verifies the user apparatus registration certificate and the storing data information which are received from the user apparatus, generates a storing authorization request by using the user apparatus registration certificate and the storing data information when the user apparatus registration certificate and the storing data information are verified, and sends the storing authorization request to the data providing apparatus,

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the data providing apparatus verifies the storing authorization request received from the issuing apparatus, generates a storing authorization when the storing authorization request is verified, and sends the storing authorization to the issuing apparatus,

the issuing apparatus that receives the storing authorization from the data providing apparatus verifies the storing authorization, and sends the storing authorization to the user apparatus when the storing authorization is verified, and

the user apparatus that receives the storing authorization from the issuing apparatus verifies the storing authorization, and obtains storing data from the data providing apparatus or from the issuing apparatus and stores the storing data into a storage device when the storing authorization is verified.

46. (New) A data storing system comprising:

a user apparatus which stores data;

an issuing apparatus which is held by an issuer that provides the user apparatus;

a data providing apparatus which is held by a data provider that provides data;

an issuer registration apparatus which is held by an issuer registrar that registers and manages the issuer; and

a data registration apparatus which is held by a data registrar that registers and manages the data provider;

wherein:

the issuer registration apparatus issues, to the issuing apparatus, an issuing apparatus registration certificate for certifying validity of the issuing apparatus,

the data registration apparatus issues, to the data providing apparatus, a data providing apparatus registration certificate for certifying validity of the data providing apparatus,

the data issuing apparatus issues, to the user apparatus, a user apparatus registration certificate for certifying validity of the user apparatus,

the user apparatus sends a data download request with the user apparatus registration certificate and storing data information to the data providing apparatus,

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the data providing apparatus verifies the user apparatus registration certificate and the storing data information which are received from the user apparatus, generates a storing authorization request by using the user apparatus registration certificate and the storing data information when the user apparatus registration certificate and the storing data information are verified, and sends the storing authorization request to the issuing apparatus,

the issuing apparatus verifies the storing authorization request received from the data providing apparatus, generates a storing authorization when the storing authorization request is verified, and sends the storing authorization to the data providing apparatus,

the data providing apparatus that receives the storing authorization from the issuing apparatus verifies the storing authorization, and sends the storing authorization to the user apparatus when the storing authorization is verified, and

the user apparatus that receives the storing authorization from the data providing apparatus verifies the storing authorization, and obtains storing data from the data providing apparatus or from the issuing apparatus and stores the storing data into a storage device when the storing authorization is verified.

47. (New) A data storing system comprising:
a user apparatus which stores data;
an issuing apparatus which is held by an issuer that provides the user apparatus;
a data providing apparatus which is held by a data provider that provides data;
an issuer registration apparatus which is held by an issuer registrar that registers and manages the issuer; and
a data registration apparatus which is held by a data registrar that registers and manages the data provider;

wherein:

the issuer registration apparatus issues, to the issuing apparatus, an issuing apparatus registration certificate for certifying validity of the issuing apparatus,

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the data registration apparatus issues, to the data providing apparatus, a data providing apparatus registration certificate for certifying validity of the data providing apparatus,

the data issuing apparatus issues, to the user apparatus, a user apparatus registration certificate for certifying validity of the user apparatus,

the user apparatus sends a data download request with the user apparatus registration certificate and storing data information to the data providing apparatus,

the data providing apparatus verifies the user apparatus registration certificate and the storing data information which are received from the user apparatus, generates a storing authorization when the user apparatus registration certificate and the storing data information are verified, and sends the storing authorization to the user apparatus, and

the user apparatus that receives the storing authorization from the data providing apparatus verifies the storing authorization, and obtains storing data from the data providing apparatus and stores the storing data into a storage device when the storing authorization is verified.

48. (New) The data storing system of claim 45, wherein:

the data providing apparatus sends key information to the data registration apparatus, the data registration apparatus generates the data providing apparatus registration certificate by using the key information, and sends the data providing apparatus registration certificate to the data providing apparatus,

the data providing apparatus provides certificate information to the storing data to be stored in the user apparatus, and

when the user apparatus receives the data providing apparatus registration certificate and the storing data with the certificate information from the data providing apparatus, the user apparatus verifies the storing data by verifying the certificate information by using the data providing apparatus registration certificate.

49. (New) The data storing system of claim 45, wherein:

the data providing apparatus sends the storing data to the data registration apparatus,

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the data registration apparatus generates certificate information for the storing data, and sends the certificate information to the data providing apparatus, and

when the user apparatus receives the storing data with the certificate information from the data providing apparatus, the user apparatus verifies the storing data by verifying the certificate information.

50. (New) The data storing system of claim 45, wherein, instead of obtaining and storing the storing data, the user apparatus deletes the storing data already stored in the storage device.

51. (New) The data storing system of claim 46, wherein, instead of obtaining and storing the storing data, the user apparatus deletes the storing data already stored in the storage device.

52. (New) The data storing system of claim 47, wherein, instead of obtaining and storing the storing data, the user apparatus deletes the storing data already stored in the storage device.

53. (New) An issuing apparatus for use in a data storing system, the issuing apparatus comprising:

a part for issuing, to a user apparatus, a user apparatus registration certificate for certifying validity of the user apparatus, wherein the user apparatus sends a data download request with the user apparatus registration certificate and storing data information to the issuing apparatus;

a part for verifying the user apparatus registration certificate and the storing data information which are received from the user apparatus, generating a storing authorization request by using the user apparatus registration certificate and the storing data information when the user apparatus registration certificate and the storing data information are verified, and sending the storing authorization request to the data providing apparatus,

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wherein a data providing apparatus verifies the storing authorization request received from the issuing apparatus, and generates a storing authorization when the storing authorization request is verified, and sends the storing authorization to the issuing apparatus, and
a part for receiving the storing authorization from the data providing apparatus, and verifying the storing authorization, and sending the storing authorization to the user apparatus when the storing authorization is verified,

wherein the user apparatus that receives the storing authorization from the issuing apparatus verifies the storing authorization, and obtains storing data from the data providing apparatus or from the issuing apparatus and stores the storing data into a storage device when the storing authorization is verified;

wherein the data storing system includes:

the user apparatus which stores data, the issuing apparatus being held by an issuer that provides the user apparatus,

the data providing apparatus which is held by a data provider that provides data,

an issuer registration apparatus which is held by an issuer registrar that registers and manages the issuer, and

the data registration apparatus which is held by a data registrar that registers and manages the data provider,

wherein:

the issuer registration apparatus issues, to the issuing apparatus, an issuing apparatus registration certificate for certifying validity of the issuing apparatus,

the data registration apparatus issues, to the data providing apparatus, a data providing apparatus registration certificate for certifying validity of the data providing apparatus.

54. (New) A data providing apparatus for use in a data storing system, the data providing apparatus comprising:

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a part for receiving a data download request with a user apparatus registration certificate and storing data information from a user apparatus;

a part for verifying the user apparatus registration certificate and the storing data information which are received from the user apparatus, generating a storing authorization request by using the user apparatus registration certificate and the storing data information when the user apparatus registration certificate and the storing data information are verified, and sending the storing authorization request to the issuing apparatus,

wherein the issuing apparatus verifies the storing authorization request received from the data providing apparatus, generates a storing authorization when the storing authorization request is verified, and sends the storing authorization to the data providing apparatus, and

a part for receiving the storing authorization from an issuing apparatus verifies the storing authorization, and sending the storing authorization to the user apparatus when the storing authorization is verified,

wherein the user apparatus that receives the storing authorization from the data providing apparatus verifies the storing authorization, and obtains storing data from the data providing apparatus or from the issuing apparatus and stores the storing data into a storage device when the storing authorization is verified;

wherein the data storing system includes:

the user apparatus which stores data,

the issuing apparatus which is held by an issuer that provides the user apparatus,

the data providing apparatus which is held by a data provider that provides data,

an issuer registration apparatus which is held by an issuer registrar that registers and manages the issuer, and

a data registration apparatus which is held by a data registrar that registers and manages the data provider,

wherein:

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the issuer registration apparatus issues, to the issuing apparatus, an issuing apparatus registration certificate for certifying validity of the issuing apparatus,

the data registration apparatus issues, to the data providing apparatus, a data providing apparatus registration certificate for certifying validity of the data providing apparatus, and

the data issuing apparatus issues, to the user apparatus, a user apparatus registration certificate for certifying validity of the user apparatus.

55. (New) A data providing apparatus for use in a data storing system, the data providing apparatus comprising:

a part for receiving a data download request with a user apparatus registration certificate and storing data information from a user apparatus; and

a part for verifying the user apparatus registration certificate and the storing data information which are received from the user apparatus, generating a storing authorization when the user apparatus registration certificate and the storing data information are verified, and sending the storing authorization to the user apparatus,

wherein the user apparatus that receives the storing authorization from the data providing apparatus verifies the storing authorization, and obtains storing data from the data providing apparatus and stores the storing data into a storage device when the storing authorization is verified;

wherein the data storing system includes:

the user apparatus which stores data,

an issuing apparatus which is held by an issuer that provides the user apparatus,

the data providing apparatus which is held by a data provider that provides data,

an issuer registration apparatus which is held by an issuer registrar that registers and manages the issuer, and

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a data registration apparatus which is held by a data registrar that registers and manages the data provider,

wherein:

the issuer registration apparatus issues, to the issuing apparatus, an issuing apparatus registration certificate for certifying validity of the issuing apparatus,

the data registration apparatus issues, to the data providing apparatus, a data providing apparatus registration certificate for certifying validity of the data providing apparatus, and

the data issuing apparatus issues, to the user apparatus, a user apparatus registration certificate for certifying validity of the user apparatus.

56. (New) A computer readable medium storing program code for causing an issuing apparatus for use in a data storing system to perform processes, the computer readable medium comprising:

program code means for issuing, to a user apparatus, a user apparatus registration certificate for certifying validity of the user apparatus, wherein the user apparatus sends a data download request with the user apparatus registration certificate and storing data information to the issuing apparatus;

program code means for verifying the user apparatus registration certificate and the storing data information which are received from the user apparatus, generating a storing authorization request by using the user apparatus registration certificate and the storing data information when the user apparatus registration certificate and the storing data information are verified, and sending the storing authorization request to the data providing apparatus,

wherein the data providing apparatus verifies the storing authorization request received from the issuing apparatus, and generates a storing authorization when the storing authorization request is verified, and sends the storing authorization to the issuing apparatus; and

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program code means for receiving the storing authorization from the data providing apparatus, and verifying the storing authorization, and sending the storing authorization to the user apparatus when the storing authorization is verified,

wherein the user apparatus that receives the storing authorization from the issuing apparatus verifies the storing authorization, and obtains storing data from the data providing apparatus or from the issuing apparatus and stores the storing data into a storage device when the storing authorization is verified;

wherein the data storing system includes:

the user apparatus which stores data,

the issuing apparatus which is held by an issuer that provides the user apparatus,

a data providing apparatus which is held by a data provider that provides data,

an issuer registration apparatus which is held by an issuer registrar that registers and manages the issuer, and

a data registration apparatus which is held by a data registrar that registers and manages the data provider,

wherein:

the issuer registration apparatus issues, to the issuing apparatus, an issuing apparatus registration certificate for certifying validity of the issuing apparatus, and

the data registration apparatus issues, to the data providing apparatus, a data providing apparatus registration certificate for certifying validity of the data providing apparatus.

57. (New) A computer readable medium storing program code for causing a data providing apparatus used in a data storing system to perform processes, the computer readable medium comprising:

program code means for receiving a data download request with a user apparatus registration certificate and storing data information from a user apparatus;

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program code means for verifying the user apparatus registration certificate and the storing data information which are received from the user apparatus, generating a storing authorization request by using the user apparatus registration certificate and the storing data information when the user apparatus registration certificate and the storing data information are verified, and sending the storing authorization request to the issuing apparatus,

wherein an issuing apparatus verifies the storing authorization request received from the data providing apparatus, generates a storing authorization when the storing authorization request is verified, and sends the storing authorization to the data providing apparatus; and

program code means for receiving the storing authorization from the issuing apparatus verifies the storing authorization, and sending the storing authorization to the user apparatus when the storing authorization is verified,

wherein the user apparatus that receives the storing authorization from the data providing apparatus verifies the storing authorization, and obtains storing data from the data providing apparatus or from the issuing apparatus and stores the storing data into a storage device when the storing authorization is verified;

wherein the data storing system includes:

the user apparatus which stores data,

the issuing apparatus which is held by an issuer that provides the user apparatus,

the data providing apparatus which is held by a data provider that provides data,

an issuer registration apparatus which is held by an issuer registrar that registers and manages the issuer, and

a data registration apparatus which is held by a data registrar that registers and manages the data provider,

wherein:

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the issuer registration apparatus issues, to the issuing apparatus, an issuing apparatus registration certificate for certifying validity of the issuing apparatus,

the data registration apparatus issues, to the data providing apparatus, a data providing apparatus registration certificate for certifying validity of the data providing apparatus, and

the data issuing apparatus issues, to the user apparatus, a user apparatus registration certificate for certifying validity of the user apparatus.

58. (New) A computer readable medium storing program code for causing a data providing apparatus used in a data storing system to perform processes, the computer readable medium comprising:

program code means for receiving a data download request with a user apparatus registration certificate and storing data information from a user apparatus; and

program code means for verifying the user apparatus registration certificate and the storing data information which are received from the user apparatus, generating a storing authorization when the user apparatus registration certificate and the storing data information are verified, and sending the storing authorization to the user apparatus,

wherein the user apparatus that receives the storing authorization from the data providing apparatus verifies the storing authorization, and obtains storing data from the data providing apparatus and stores the storing data into a storage device when the storing authorization is verified;

wherein the data storing system includes:

the user apparatus which stores data,
an issuing apparatus which is held by an issuer that provides the user apparatus,

the data providing apparatus which is held by a data provider that provides data,

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an issuer registration apparatus which is held by an issuer registrar that registers and manages the issuer, and

a data registration apparatus which is held by a data registrar that registers and manages the data provider,

wherein:

the issuer registration apparatus issues, to the issuing apparatus, an issuing apparatus registration certificate for certifying validity of the issuing apparatus,

the data registration apparatus issues, to the data providing apparatus, a data providing apparatus registration certificate for certifying validity of the data providing apparatus, and

the data issuing apparatus issues, to the user apparatus, a user apparatus registration certificate for certifying validity of the user apparatus.